I claim:

1. A heat exchanger having improved heat exchange capability, comprising:

a primary heat exchanger including an air fan which has a heat exchange coiled tube located therein for circulating system refrigerant;

a water vaporization device for generating water vapor from water and air intake to allow passing air and water molecules to generate heat exchange function and add moisture ; and

a secondary heat exchanger located at a front side of an air intake side of the water vaporization device having a heat exchange coiled tube which has an upper end connecting to the primary heat exchanger through a refrigerant delivery tube and a lower end connecting to a fourth refrigerant delivery tube.

2. The heat exchanger of claim 1, wherein the water vaporization device has a water discharge head connecting to a body which is made from an air and water permeable material.

3. The heat exchanger of claim 1, wherein the primary heat exchanger has an upper end connecting to a first refrigerant delivery tube.

4. The heat exchanger of claim 1 further including a first sensor, a second sensor and a third sensor that are connected to a controller.

5. The heat exchanger of claim 4, wherein the first sensor detects the temperature of the refrigerant discharged from the primary heat exchanger.

6. The heat exchanger of claim 4, wherein the second sensor detects the air

temperature discharged from the secondary heat exchanger.

7. The heat exchanger of claim 4, wherein the third sensor detects the temperature of the air intake.

8. The heat exchanger of claim 1, wherein the primary heat exchanger has a lower end connecting to a second refrigerant delivery tube.

9. The heat exchanger of claim 8, wherein the second refrigerant delivery tube has two branch tubes, one of the branch tubes being coupled with a refrigerant flow controller and another branch tube being coupled with a first refrigerant solenoid check valve.

10. The heat exchanger of claim 9, wherein the two branch tubes have another ends converged to connect to a third refrigerant delivery tube.

11. The heat exchanger of claim 1 or 10, wherein the fourth refrigerant delivery tube and the third refrigerant delivery tube are bridged by a fifth refrigerant delivery tube which is coupled with a second refrigerant solenoid check valve.

12. The heat exchanger of claim 1, wherein the water vaporization device has a water discharge head on an upper side connecting to a water intake tube.